

MINING ENGINEERING INDEX TO VOLUME 38

January-December 1986

PART 1

Feature Articles, Technical Papers, Industry Newswatch News Briefs, Equipment News, Washington Survey, and The Drift of Things

* Denotes feature article or technical paper

A

A. Tobe Yu: Interview with SME president.* T. O'Neil. Mar, 163

Abel, J.F.: Instrumented flexibly-lined loading pocket. Jun, 433

Acid rain:

clean coal projects seek DOE's \$400 million. Jun, 397

coal gasification could be partial answer to acid rain. Mar, 158

EPA, industry win one lawsuit. Nov, 1015 liming found to be cost-effective in reducing lake acidity. Mar, 156

Reagan, Mulroney agree to plan. May, 299

support for legislation is strong. Jun, 397

US, Canadian envoys urge major funding. Mar, 151

Adam, D.G.: Syncrude Canada Ltd. outlines its feeder breaker testing.* Jun, 420

Addison, R.: Western Australia stamp batteries still active.* Jul, 489

Agglomerated and unagglomerated heap leaching behavior is compared in production steps.* G.E. McClelland. Jul, 500

Agglomeration:

comparing agglomerated and unagglomerated behavior.* Jul, 500

helps heap leaching recovery.* Dec, 1105

Agglomeration: Cheap insurance for good recovery when heap leaching gold and silver ores.* P.D. Chamberlin. Dec, 1105

Alabama, research complex built at U of A. Jul, 484

Alaska:

dredger becomes landmark. Jul, 486

progress report on Cominco's Red Dog zinc deposit.* Dec, 1097

reopens only deep shaft gold mine. Jul, 481 state builds road, port for Red Dog. May, 303

Alcan Aluminum:

company reports. Jun, 402

sells five European aluminum extrusion plants. Jul, 487

Alcoa:

increases plate, sheet, foil prices. May, 306

reduces capacity at two US smelters. Nov, 1022

restarts two plants. Sep, 875

strikes close Vancouver smelter. Aug, 800

AM&S Mining, strikes halts mining at Bunker Hill. Aug, 800

Amax:

acquires American Electric's Price River coal mine. Apr, 235

acquires Price River coal mine. Aug, 800

company reports. Jun, 402

Gousseland hired by Paine Webber. May, 305

Gousseland out, Born in, Jan, 9

leases coal mine to Arch Mineral. May, 306

lowers moly production at Colorado mines. Aug, 798

may buy 50% of Alumax. Sep, 875

reduces Colorado moly workforce by 31%. Oct, 948

Sleeper to produce more gold than expected. Dec, 1092

wire ropes stop centrifuge vibration. Dec, 1110

Ambrose, J.P.: Evaluation of potential radon exposure from development of Georgia phosphate deposits.* Mar, 195

AMC, Pittsburgh hosts coal convention.* Jul, 492

Ammonium nitrate, Wycon expands Wyoming plant. Jan, 7

Amoco, acquired 50% of Rio Blanco Oil Shale. Apr, 235

Amselco Minerals, acquired Noranda's interest in Green's Creek. Jul, 487

Analysis of significant mineral discoveries in the last 40 years and future trends.* D.R. Cook. Feb, 87

Anglo American, will merge five S. African mines. Jan, 9

Annual reports, 1985 same as '84. Jun, 402

Ansell, G., to chair copper advisory panel. Nov, 1021

Anthracite, waste facility construction begun. Aug, 797

Arabian Shields Development, bought Dorchester Coal's Fruita, CO reserves. Apr, 235

Arizona:

annual conference wrap up.* Jan, 27

annual review.* May, 323

Phelps Dodge reopens Douglas smelter. Sep, 871

Asameria Minerals, Cannon's tailings impoundment described.* Aug, 813

Asarco:

company reports. Jun, 402

copper union concessions avert strike. Aug, 798

permanently closed Ohio zinc plant. Apr, 235

reopened three Tennessee zinc mines. Aug, 800

resumed seven-day operations at lead smelter. Cct, 948

to buy Ray Mines from Kennecott. Dec, 1092

Ashworth, E.: Study shows downward trend in mining engineering enrollments, suggests courses of action.* Aug, 809

Aspen Exploration, finds gold near Nome, AK. Dec, 1092

Atlas, receives \$200 million loan commitment. May, 306

Aughenbaugh, N.B.: Effects of moisture variations and overburden on subsidence.* Feb, 115

Australia:

Argyle diamond deposit outlined.* Jan, 13

Battle Mountain to develop Queensland gold mine. Aug, 799

deeper mines require bigger trucks. Sep, 893

stamp batteries are mining history.* Jul, 489

Austria, agrees to limit steel shipments to US. Feb, 77

B

Baafi, E.Y.: On nonnegative weights of linear kriging estimation.* Jun, 437

Ballock, G.P.: Environmental approach to coal refuse disposal.* Mar, 181

Barbaro, R.W.: Generalized multiperiod MIP model for production scheduling and processing facilities selection and location.* Feb, 107

Barczy, P.: Hungary's Selmec Mining School, one of Europe's oldest, celebrates its 250th anniversary.* Jun, 417

Barite, annual review.* May, 355

Bass, J.W.: Development described for fluidized bed combustion at TVA's 20-MW pilot plant.* Apr, 240

Battle Mountain describes the geology of its Fortitude gold-silver deposit at Copper Canyon.* P.R. Wotroba, R.G. Benson, and K.W. Schmidt. Jul, 495

Battle Mountain Gold:

company reports. Jun, 402

Fortitude geology described.* Jul, 495

will develop Queensland gold deposit. Aug, 799

C

Bechtel, will build \$1 billion coal-fired plant in Turkey. Apr, 236

Benson, R.G.: Battle Mountain describes the geology of its Fortitude gold-silver deposit at Copper Canyon.* Jul, 495

Bingham Canyon:

\$400 million modernization planned. Feb, 82

Kennecott recalls workers. Oct, 948

Blair, C.K.: Mine subsidence effects on a pressurized natural gas pipeline.* Oct, 980

Boliden:

buys Greenland lead-zinc mine. Sep, 874

to assist in Chinese coal mine rehabilitation. Apr, 236

Boron, annual review.* May, 355

Bourne, H.L.: What it's worth: A review of mineral royalty information.* Aug, 816

Bovino, V.: Unlimited productivity - your operation can achieve it.* Mar, 171

Brawner, C.O.: Recent lessons that have been learned in open-pit mine stability. 1986 Jackling Lecture.* Aug, 823

Brazil:

1985 gold production increased 14%. Aug, 800 adds 617 kt/a (680,000 stpy) of pig iron. Apr, 232 zinc company will expand capacity to 120 kt/a (132,000 stpy). Apr, 236

British, cuts coal price due to oil price war. Apr, 231

Bromine, annual review.* May, 355

Brown, J.D.: Quality control and shipment planning at The Carter Mining Co.* Dec, 1115

Brunswick Mining, silver distribution described at its massive sulfide deposit.* Oct, 963

Bunker Ltd., closed Crescent mine. Aug, 800

Burlington Northern:

must pay Omaha Public for overcharges plus interest. Oct, 941

must refund \$40 million to utility. May 299

Butler, L.J.: Paradise Peak precious metals mill begins production ahead of schedule and under budget.* Dec, 1102

C&NW:

signs coal contract with Louisiana Gasification. May, 306

Caldwell, J.: Design and construction outlined of the Cannon mine tailings impoundment.* Aug, 813

California, Homestake brings McLaughlin on-stream.* Jan, 24

Callahan Mining, company reports. Jun, 402

Canada Development, sold Kidd Creek to Falconbridge. Feb, 84

Canada:

coal conservation and productivity improvement.* Sep, 879

Inspiration Resources targets Western US, Canadian gold deposits. Jul, 481

Lac ordered to give up Hemlo mine. May, 304

Ontario urges US to help curb acid rain. Feb, 77

Reagan, Mulroney agree to acid rain plan. May, 299

silver distribution described at Brunswick massive sulfide deposit.* Oct, 963

US, Canadian envoys urge major funding for acid rain research. Mar, 151

Canadian coal industry: Developments in resource conservation and productivity improvement.* R.K. Singhal and H. Sahay. Sep, 879

Cannon mine, tailings impoundment described.* Aug, 813

Carbon-in-leach, Cortez Gold converts from CCD to CIL.* Sep, 888

Case studies illustrate the need for a new concept of coal pillar design:* S.S. Peng. Nov, 1033

Case study: Ozark-Mahoning, sole surviving US fluorite producer:* V.A. Evans and D.L. Heller. Nov, 1030

Caterpillar:
changes name to Caterpillar Inc. Jul, 486
company reports. Jun, 402
consolidates Canadian operations. May, 306
introduces new impact ripper. Mar, 156
reported first full year profit since 1981. Mar, 160
unveils its largest tractor to date. Jun, 404

Cement, annual review:* May, 356

Cerrojón North Block project is making Colombia a major coal exporter:* B.M. Everett and G.D. Savage. Jun, 409

Chamberlin, P.D.: Agglomeration: Cheap insurance for good recovery when heap leaching gold and silver ores.* Dec, 1105

Chamberlin, P.D.: Steps outlined to ensure precious metals miners have good relationships with their refiners.* Oct, 959

Chen, C.Y.: Underground coal mining and attendant subsidence control: Some history, technology, and research.* Feb, 95

Chender, M.: Implications for companies and individuals of current changes in exploration strategy.* Jan, 19

Chevron Resources:
closed Denver, CO office. Mar, 160
Stillwater begins mine construction. Oct, 945

Chile:
El Indio mineral processing plant described.* Oct, 971

Los Bronces copper-moly deposit.* Mar, 187

China begins to aggressively exploit its massive coal reserves:* M.S.H. Hua. Mar, 177

China, begins to exploit its coal.* Mar, 177

Circulating fluidized bed, Colorado power plant experiments with it. Nov, 1019

Clays, annual review.* May, 357

Clean coal technology:
DOE gets more R&D money than it wants. Sep, 867

DOE program already criticized. Nov, 1020

DOE receives 51 proposals. Jun, 397

DOE wants repayment of Federal aid. Apr, 225

one steelmaker receives clean coal funds. Nov, 1020

physical cleaning to reduce Illinois No. 6 slagging potential.* Aug, 830

TVA tests FBC pilot plant.* Apr, 240

Cleveland-Cliffs:
company reports. Jun, 402
resumes iron mining at Tilden. Dec, 1092

Coal gasification:
consortium must pay full price for Great Plains oil. Mar, 151

could help solve acid rain problem. Mar, 158

Coal leasing:
BLM publishes final rule changes. Jul, 482

DOE resumes regional leasing. May, 303

Coal transportation, slurry loading/unloading in Japan.* Apr, 261

Coal:
AMC coal convention held in Pittsburgh.* Jul, 492

annual review, introduction.* May, 349

Canadian coal resource conservation and productivity improvement.* Sep, 879

Cerrojón is making Colombia a major coal exporter.* Jun, 409

China begins to exploit its reserves.* Mar, 177

cleaning of Illinois No.6 seam.* Aug, 830

coal mine subsidence effects on natural gas pipeline.* Oct, 980

Defense department to double its use. Sep, 867

development dispute resolved in Wyoming. Apr, 230

El Cerrejón increases production. Mar, 160

environmental approach to refuse disposal.* Mar, 181

EPA, industry win sulfur dioxide suit. Nov, 1015

exports increase 13% in 1985. Oct, 945

Kaiser brings mine, loadout system on-line. Dec, 1089

lignite discovered in Ireland. Jan, 7

methane extraction from coalbeds examined.* Aug, 805

new concept for coal pillar design needed.* Nov, 1033

new look at underground safety.* Apr, 266

oil price war cause Britain and France to cut coal price. Apr, 231

overview of longwall dust control progress.* Oct, 953

Peabody opens Kentucky mine. Sep, 872

quality control at Carter Mining.* Dec, 1115

steel strike closes two Colorado mines. Oct, 945

underground subsidence control analyzed.* Feb, 95

US producers find ways to compete with foreign coal.* Jan, 22

Wilberg fire still investigated. Sep, 871

Wyoming charfuel conversion plant. Oct, 946

Cobalt, recovery from Missouri lead is possible. Jun, 401

Coeur d' Alene Mines:
brings second gold/silver mine this year into production. Dec, 1092

to begin production in Idaho and Nevada precious metals mines. Apr, 235

Collins, D.J.: Paradise Peak precious metals mill begins production ahead of schedule and under budget.* Dec, 1102

Colombia:
Cerrejón increases coal production. Mar, 160

Cerrejón making country a major coal exporter.* Jun, 409

Ruiz volcano eruption described.* Feb, 99

Colorado Mining Association: forecasts slow rebound for Colorado mining. Mar, 155

Colorado School of Mines:
Ansell to chair copper advisory panel. Nov, 1021

changes humanities curriculum. Feb, 84

course helps teachers understand mining.* Mar, 175

radiation closes classroom. Jan, 9

Colorado-Ute, experiments with CFB power plant. Nov, 1019

Colorado-Westmoreland, wants to reopen Orchard Valley coal mine. Oct, 948

Colorado:
Amax lowers moly production at two mines. Aug, 798

annual review.* May, 325

Cathedral Bluffs oil shale closed. Jul, 482

National Western Mining Conference wrap-up. Apr, 229

slow rebound forecast for mining. Mar, 155

steel strike closes two state coal mines. Oct, 945

Summitville sets production record. Dec, 1091

Uncola considers FBC at Parachute. Nov, 1021

utility experiments with circulating fluidized bed power plant. Nov, 1019

Cominco:
closed Polaris mine. Jul, 487

combined parts of mining company Lornex Mining. Mar, 161

received \$69 million to expand lead deposit. Jan, 9

Red Dog progress report.* Dec, 1097

road, port built by Alaska for Red Dog. May, 303

Common Market:
Customs halts steel imports. Jan, 3

US clamps down on CM semifinished steel. Apr, 231

Computer-based dispatching in mines, with concurrent operating objectives:* J.W. White and J.P. Olson. Nov, 1045

Concentration, latest technology discussed.* Sep, 885

Consol:
company reports. Jun, 402

five workers killed in storage bin. Apr, 235

Construction aggregates, annual review.* May, 357

Conversion of the Cortez Gold Mining CCD circuit to CIL:* A.L. Crandell. Sep, 888

Conveyors:
five-flight is economical. Jan, 12

helps in pellet transfer to hopper. Dec, 1111

Cook, D.R.: *Analysis of significant mineral discoveries in the last 40 years and future trends.** Feb, 87

Copper:
Ansell to chair advisory panel. Nov, 1021

Bingham Canyon modernization planned. Feb, 82

Butte mines may reopen. Jul, 484

Butte operations to be renewed. Oct, 948

Chile's El Indio processing plant described.* Oct, 971

Congress tries to get Reagan to negotiate restraints. Feb, 77

Cyprus says US industry is on upswing. Jul, 482

innovations spur solution mining resurgence.* Nov, 1036

Kenecott recalls Bingham workers. Oct, 948

Los Bronces deposit explored.* Mar, 187

Newmont spin off to increase leaching. Dec, 1090

Okl Tedi puts copper plans on hold. Dec, 1090

Phelps Dodge reopens Douglas smelter. Sep, 871

treatment methods for difficult porphyry ores.* Sep, 905

union concessions avert strike. Aug, 798

Zaire gets \$110 million loan to increase production. Jul, 475

Cortez Gold, converts from CCD to CIL.* Sep, 888

Crandell, A.L.: Conversion of the Cortez Gold Mining CCD circuit to CIL.* Sep, 888

Critical Materials Council: to assess national materials needs. Jan, 3

Crushing and grinding, annual review.* May, 340

Cuba, opened chrome processing plant. Oct, 949

CVRD, will increase annual titanium output. Jul, 487

Cyprus Minerals:
company reports. Jun, 402

executive says US copper is on upswing. Jul, 482

LTV bankruptcy has major impact. Sep, 871

negotiates purchase of Sierra complex. Apr, 232

renegotiated two long-term coal contracts. Mar, 160

signed coal contract with IPA. Nov, 1022

writes down \$166 million. Feb, 84

D

Dahlstrom, D.A.: *Impact of changing energy economics on mineral processing.** Jan, 45

Daniel, J.H.: *Longwall dust control: An overview of progress in recent years.** Oct, 953

Degerstrom's large heap leach operation profitably mines low-grade gold.* Jan, 29

Degerstrom, heap leach operation is profitable.* Jan, 29

Design and construction outlined of the Cannon mine tailings impoundment:* J.Caldwell, D. Moore, I. Hutchison, and T. Slader. Aug, 813

Design guidelines for improved water spray systems:* S.K. Mukherjee, M.M. Singh, and N.I. Jayaraman. Nov, 1054

Development described for fluidized bed combustion at TVA's 20-MW pilot plant:* J.W. Bass III. Apr, 240

Development of Australia's first major diamond discovery outlined.* R.D. Lang. Jan, 13

Dewatering, annual review.* May, 340

Diamond Shamrock:
ends talks to sell coal unit to Arch. Dec, 1092

sells coal unit to Arch Mineral. Sep, 875

Diamonds, Argyle deposit outlined.* Jan, 13

Diatomite, annual review.* May, 358

Dille, J.A.: *Quality control and shipment planning at The Carter Mining Co.** Dec, 1115

Dimension stone, annual review.* May, 358

Dolomite, annual review.* May, 358

Domenici, P., bill helps domestic uranium industry. Nov, 1015

Domestic iron ore and steel industries can survive, but they are running out time:* S. Kral. Mar, 168

Dominican Republic and Haiti continue to explore their alluvial gold deposits:* G.M. Ellis. Aug, 818

Dominican Republic exploring its gold deposits:* G.M. Ellis. Feb, 101

Dominican Republic:
Dominican Republic, Haiti explore for alluvial gold.* Aug, 818

gold deposits being explored.* Feb, 101

Dredging:
Alaska dredger becomes landmark. Jul, 486

Dominican Republic, Haiti explore for alluvial gold.* Aug, 818

Dresser Industries, plans overseas venture with Ingersoll-Rand. Aug, 800

Drift of things:

1985 annual review, Pennzoil vs. Texaco: To err is human, Col. Muammar? Moammar? May, 298

Colombian coal, July 4th and minerals, plastic cars and trailers, birds of prey. Jun, 396

Furnace test, more needed than just cuts, ocean maps off limits, fusion energy progress. Oct, 940

Inco shows the way, oil running out?, new soda ash use. Feb, 76

Mineral data overlap, TV dinners, superhard materials, pages 197-198, computer counterpart. Mar, 150

mining and high tech, aluminum bikes, world debt, apples, rock around the clock. Jan, 2

Mining robots underground, ceramics in cars, women and pay, the 25-hour day. Jul, 474

mining series on PBS, optical computer. Sep, 866

SME alloys, Holmes a Court, Tenn-Tom, Graphite-epoxy, Society involvement, educated illiteracy. Apr, 224

Statue of Liberty, plastic cars, population shifts. Aug, 792

DuPont, reduced research budget 4% for 1986. Apr, 235

Duval, negotiates selling Sierrita to Cyprus. Apr, 232

E

Eastern Gas and Fuel Associates, suspends coal mining at Powderhorn operation. Dec, 1092

Echo Bay Mines:

acquires Tenneco's gold mines. Nov, 1022

company reports. Jun, 402

ore reserves doubled during the year. Apr, 236

will decide whether to expand Round Mountain. Aug, 800

Economic and environmental comparison: Bore-hole mining versus conventional mining of phosphate. J.A. Hrabik. Jan, 33

Economic incentive for crawler/transporter use in mobilizing portable rock handling equipment. W. Trask. Apr, 255

Economics:

effects of changing energy economics on minerals processing. Jan, 45

exploration strategy changes and company implications. Jan, 19

extender, fillers have growth potential. Dec, 1090

gold could be good investment. May, 305

mineral royalty information review. Aug, 816

recycling tin from primary production residues. Dec, 1120

US and world mineral positions, 1985 to 2000. Apr, 244

US coal exports increase 13% in 1985. Oct, 945

Education:

course helps teachers understand mining. Mar, 175

mining engineering enrollments down. Aug, 809

Effects of moisture variations and overburden on subsidence: C.D. Elfrits and N.B. Aughenbaugh. Feb, 115

Egerer, F.: Hungary's Selme Mining School, one of Europe's oldest, celebrates its 250th anniversary. Jun, 417

Eichholz, G.G.: Evaluation of potential radon exposure from development of Georgia phosphate deposits. Mar, 195

El Cerrejón:

increases coal production. Mar, 160

Elfrits, C.D.: Effects of moisture variations and overburden on subsidence. Feb, 115

Elkem AS, enters gallium market. May, 306

Ellis, G.M.:

Dominican Republic exploring its gold deposits. Feb, 101

Emery Mining:

recovered last two Wilberg bodies. Jan, 9

Wilberg fire still being investigated. Sep, 871

Energy minerals processing, annual review. May, 340

Environmental approach to coal refuse disposal: A.G. Scialli, G.P. Ballock, and K.K. Wu. Mar, 181

Environmental issues:

annual review. May, 341

EPA's waste exclusions criticized. Jan, 3

Equipment:

Australian mines require bigger trucks. Sep, 893

Cat introduces impact ripper. Mar, 156

Economic incentive for crawler/transporter use. Apr, 255

five-flight conveyor is economical. Jan, 12

Syncrete Canada outlines feeder breaker. Jun, 420

Evaluation of potential radon exposure from development of Georgia phosphate deposits: G.G. Eichholz, J.P. Ambrose, and M.G. Skowronski. Mar, 195

Evans, V.A.: Case study: Ozark-Mahoning, sole surviving US fluorspar producer. Nov, 1030

Events leading to Colombia's Ruiz volcano eruption and its results described: A. Rivera. Feb, 99

Everett, B.M.: Cerrejón North Block is making Colombia a major coal exporter. Jun, 409

Exploration and geologic evaluation of the Los Bronces copper-molybdenum deposit, Chile: L.R. Stoiser. Mar, 187

Exploration:

annual review, introduction. May, 321

changes in exploration strategies discussed. Jan, 19

discoveries and trends examined. Feb, 87

Dominican Republic explores for gold. Feb, 101

Los Bronces copper-molybdenum discussed. Mar, 187

Exports:

annual review, coal. May, 349

steel restraints sought from three countries. Nov, 1015

US exports increase 13% in 1985. Oct, 945

Exxon:

Democrats try to halt oil shale land transfer. Oct, 941

Hart tries to delay oil shale land transfer. Nov, 1015

production increased at El Cerrejón. Mar, 160

wins 60-year-old oil shale suit. Sep, 867

F

Falconbridge:

reopened Sudbury nickel mine. Jul, 487

resumed zinc property development work. Oct, 949

sold stake in Kiena Mines to Campbell Red Lake Mines. Mar, 161

will acquire Kidd Creek. Feb, 84

FBC:

clean coal projects seek DOE's \$400 million. Jun, 397

TVA tests 20-MW pilot plant. Apr, 240

Unocal considers its use at Parachute. Nov, 1021

Feldspar, annual review. May, 359

Ferroalloys, included in South African sanctions. Dec, 1085

Fiji, Namosi copper deposit no longer licensed. Jan, 9

Finfinger, G.L.: Results given of studies concerning methane extraction from coalbeds. Aug, 805

Flocculation, annual review. May, 342

Flotation, annual review. May, 343

Fluor, receives \$200 million for Australian copper plant. Aug, 800

Fluorspar - trends and changes in production and use. L. Pelham. Nov, 1025

Fluor spar:

annual review. May, 359

Ozark-Mahoning, lone US producer. Nov, 1030

trends and changes in production and use. Nov, 1025

FMC:

dedicates Paradise Peak gold mill. Jun, 401

Paradise Peak begins production. Dec, 1102

Foreign coal is a threat, but US producers are finding ways to compete: S. Kral. Jan, 22

France:

cuts coal price due to oil price war. Apr, 231

French technology used in US ammonium plant.

Jan, 3

Freeport-McMoRan Gold, company reports. Jun, 402

G

Galactic Resources, sets monthly gold production record. Dec, 1091

Garnet, annual review. May, 360

Gems, annual review. May, 360

Gencor, fired 20,000 black strikers, warned 10,000 others to return to work. Mar, 161

Generalized multiperiod MIP model for production scheduling and processing facilities selection and location. R.W. Barbaro and R.V. Ramani. Feb, 107

Geochemistry, annual review. May, 322

Geology:

Fortitude mine geology described. Jul, 495

Los Bronces copper-moly deposit discussed. Mar, 187

Geophysics, annual review. May, 323

Giegerich, H.M.: Progress report on Cominco's Red Dog project in Alaska, second largest zinc deposit ever discovered. Dec, 1097

Gilbralter Mines, plans to leach copper-moly wastes. Feb, 84

plans to leach copper-moly wastes. Feb, 84

Gold Fields, plans South African platinum mine. Aug, 799

Gold:

agglomerated and unagglomerated heap leaching compared. Jul, 500

Agglomeration helps leaching recovery. Dec, 1105

Alaska dredger becomes landmark. Jul, 486

Alaska reopens its only deep shaft mine. Jul, 481

annual review. May, 332

Battle Mountain to develop Australian deposit. Aug, 799

Cannon's tailings impoundment described. Aug, 813

Chile's El Indio plant described. Oct, 971

converting Cortez Gold from CCO to CIL. Sep, 888

could be good investment by end of 1986. May, 305

Dominican Republic explores its deposits. Feb, 101

FMC dedicates Paradise Peak. Jun, 401

Fortitude geology described. Jul, 495

Galactic sets monthly production record. Dec, 1091

Homestake brings McLaughlin onstream. Jan, 24

huge growth seen for US production in 1988. Apr, 233

Inspiration Resources explores Western US, Canada. Jul, 481

Lac must give Hemlo mine to Corona. May, 304

Ok Tedi to mine more gold. Dec, 1090

Paradise Peak begins production. Dec, 1102

Pegasus begins operating Florida Canyon. Nov, 1022

Silver King opens processing plant. Dec, 1091

South Dakota groups wants to ban heap leaching. Dec, 1091

steps to maintaining good relations between miners and refiners. Oct, 959

Tenneco opens McCoy mine. Oct, 9477

Treasury will mint gold coins. Feb, 77

Granite, annual review. May, 361

Great Plains:

consortium must pay full price for oil. Mar, 151

partners seek to halt foreclosure sale. Jun, 397

Ground control, annual review. May, 334

H

Haiti, explores for alluvial gold deposits. Aug, 818

Hall of fame:

Munroe inducted into Arizona hall. Feb, 833

national hall seeking permanent home. Sep, 874

Hamilton Copper & Steel, to build \$30 million mill in Panama. Dec, 1092

Hand, J.P.: Quality control and shipment planning at The Carter Mining Co. Dec, 1115

Harder, P., deeper Australian mines require bigger trucks. Sep, 893

Harrison, C.D.: Physical coal cleaning to reduce Illinois No. 6 coal's seam slagging potential. Aug, 830

Hart, G., tries to delay oil shale land transfer. Nov, 1015

Haulage:

computer dispatching in mines, with concurrent objectives. Nov, 1045

trolley assist at Iscor's Sishen iron mine. Apr, 237

Health and safety:

annual review, coal. May, 335

annual review. May, 335

fire kills 177 S. African gold miners. Nov, 1019

look at underground coal safety. Apr, 266

MSHA investigates death of mining engineer. May, 305

Heap leaching:

agglomerated and unagglomerated behavior compared. Jul, 500

agglomeration helps recovery. Dec, 1105

Cortez Gold converts from CCD to CIL. S., p. 888

Paradise Peak begins production. Dec, 1102

SME course precedes AMC show. Sep, 875

South Dakota group wants it banned. Dec, 1091

Tenneco opens McCoy gold mine. Oct, 947

Hecla Mining:

annual review. Jun, 402

enters joint venture to develop beryllium deposit. Oct, 949

finalizes plans to explore beryllium deposit. Nov, 1022

Republic workers reject unionization. Aug, 800

Heller, D.L.: Case study: Ozark-Mahoning, sole surviving US fluorspar producer. Nov, 1030

Hecla, Lac ordered to give up gold mine. May, 304

Highland Valley Copper, to install in-pit crushers at Canadian open-pit. Nov, 1022

Hiskey, J.B.: Technical innovations spur resurgence of copper solution mining. Nov, 1036

Homestake Mining:

bought half interest in Buick lead/zinc. Jul, 486

cyanide-eating bacteria used at mine. Feb, 83

David Fagin named president, CEO. Aug, 800

McLaughlin gold mine comes onstream. Jan, 24

Homestake's McLaughlin mine: One of the largest US gold mines comes onstream in 1985. Jan, 24

Hrabik, J.A.: Economic and environmental comparison: Borehole mining versus conventional mining of phosphate. Jan, 33

Hua, M.S.H.: China begins to aggressively exploit its coal reserves. Mar, 177

Hucks, V.J.: Mine subsidence effects on a pressurized natural gas pipeline. Oct, 980

Hudson Bay, to explore and possibly develop Canadian nickel deposit. Nov, 1022

Hungary's Selmec Mining School, one of Europe's oldest, celebrates its 250th anniversary. P. Barczy and F. Egerer. Jun, 417

Hutchison, I.: Design and construction of the Cannon mine tailings impoundment. Aug, 813

Hydrogeology, annual review. May, 335

I

Idaho, Pioneer reopens Stibnite mine. Dec, 1091

Ideal Basic Industries, Rio Algom will buy Potash Co. of America. Apr, 235

Illinois:

annual review. May, 325

Impact of changing energy economics on mineral processing. D.A. Dahlstrom. Jan, 45

Implications for companies and individuals of current changes in exploration strategies. M. Chender. Jan, 19

Imports, US coal producer find ways to compete with foreign producers. Jan, 22

Inco:

company reports. Jun, 402

completes exploration at Golden Pond East. Dec, 1092

reduces worldwide nickel production 20%. Feb, 84

to spend \$40 million at Sudbury. Nov, 1022

India, to export more than 30 Mt/a (33 million stpy) of iron ore. Oct, 949

Indiana, annual review. May, 325

Industrial diamond, annual review. May, 362

Industrial minerals:

annual review. May, 355

extender, fillers have growth potential. Dec, 1090

Fluorspar, changes in production and use. Nov, 1025

Ozark Mahoning, lone US fluorspar producer. Nov, 1030

Ingersoll-Rand, plans overseas venture with Dresser. Aug, 800

Inspiration Consolidated Copper, closed part of Arizona operations. Mar, 160

Inspiration Resources, targets Western US, Canada for gold. Jul, 481

Instrumentation and control, annual review. May, 344

Instrumented flexibly-lined loading pocket. J.F. Abel and R.J. Spangler. Jun, 433

International Corona, gets Hemlo mine from Lac. May, 304

Iodine, annual review. May, 361

Ireland, lignite discovered in North. Jan, 7

Iron ore:

Brazil to add 617 kt/a (680,000 stpy). Apr, 232

industry can survive, running out of time. Mar, 168

trolley assist at Sishen iron mine. Apr, 237

Island Creek, acquires Laurel Run Mining. Nov, 1022

ITC, tin traders lose millions. May, 303

Iwasaki, I.: US mining: Have we done enough? Are we doing enough for the future? Jun, 413

J

Jackling Lecture, lessons learned in open-pit mine stability. Aug, 823

Jackson, F.L.: Processing perlite for use in insulation applications. Jan, 40

Jankowski, R.A.: Longwall dust control: An overview of progress in recent years. Oct, 953

Japan:

coal slurry loading/unloading research. Apr, 261

US trona producers want trade restrictions. Aug, 797

Jayaraman, N.I.: Design guidelines for improved waterspray systems. Nov, 1054

Jenkins, R.:

Slow rebound forecast for Colorado mining industry. Mar, 155

US government's stance on minerals issues draws heavy criticism at mining meetings. Jan, 27

K

Kaiser Aluminum & Chemical, company reports. Jun, 402

Kaiser Coal:

bought Colorado coal mine from US Steel. Mar, 160

brings mine, loadout system on-line. Dec, 1089

Kawashima, T.: Research on slurry loading/unloading of coal vessels in Japan. Apr, 261

Kennecott:

copper union concessions avert strike. Aug, 798

eliminated 75 positions in Salt Lake. Mar, 160

plans Bingham modernization program. Feb, 82

recalls Bingham workers. Oct, 948

Kentucky:

annual review. May, 330

Peabody opens coal mine. Sep, 872

Kerr-McGee:

guard wounded at closed uranium plant. Apr, 231

sued over Oklahoma uranium accident. Sep, 875

Kidd Creek Mines, acquired by Falconbridge. Feb, 84

Kim, Y.C.: On nonnegative weights of linear kriging estimation. Jun, 437

Kimball, E.P.: Mine subsidence effects on a pressurized natural gas pipeline. Oct, 980

Kimberlites, Argyle deposit outlined. Jan, 13

Kinneberg, D.J.: Steps outlined to ensure precious metals miners have good relationships with their refiners. Oct, 959

Kissell, F.N.: Longwall dust control: An overview of progress in recent years. Oct, 953

Knobel, J.A., is new AMC president. Mar, 160

Kral, S.:

despite Reagan's endorsement, Administration still ignores mining. Apr, 229

Domestic iron ore and steel industries can survive, but they are running out of time. Mar, 168

Foreign coal is a threat, but US producers are finding ways to compete. Jan, 22

Symposia, technical sessions aimed at making US mining industry competitive with the rest of the world. Apr, 249

US government's stance on minerals issues draws heavy criticism at mining meetings. Jan, 27

Kriging, nonnegative weights of linear kriging estimation. Jun, 437

L

Labor:

copper union concessions avert strike. Aug, 798

Helco Republic workers reject unionization. Aug, 800

Lac Minerals, ordered to give up Hemlo mine. May, 304

Lang, R.D.: Development of Australia's first major diamond discovery outlined. Jan, 13

Lead:

Boliden buys Greenland mine. Sep, 874

cobalt recovery from Missouri lead possible. Jun, 401

recovered from steel dust and waste. Jul, 481

Legislation:

annual review, coal. May, 350

annual review. May, 336

support for acid rain bill is strong. Jun, 397

Lime:

annual review. May, 362

found to be cost-effective in reducing lake acidity. Mar, 156

Lithium, annual review. May, 362

LME:

calls in debts, tin loses millions. May, 303

tries to recoup \$450 million from tin council. Aug, 800

Longwall dust control: An overview of progress in recent years. R.A. Jankowski, F.N. Kissell, and J.H. Daniel. Oct, 953

Longwall mining:

Kaiser dedicates new mine. Dec, 1089

overview of dust control progress. Oct, 953

Lornex Mining, combines part of mining company with Cominco. Mar, 161

LTV, files for bankruptcy. Sep, 871

Luff, W.M.: Silver distribution described at the Brunswick No. 12 massive sulfide deposit. Oct, 963

M

M.A. Hanna, company reports. Jun, 402

Mackey, T.S.: Secondary recycle of tin from primary production residues in the US. Dec, 1120

Maine, annual review. May, 325

Malghan, S.G.: Treatment methods for difficult-to-float copper porphyry ores. Sep, 905

Manganese, annual review. May, 363

Manville:

creditors vote on reorganization. Oct, 947

gets permission to enter Stillwater project. Sep, 875

Stillwater begins mine construction. Oct, 945

Marketing:

coal marketing strategies conference. Jan, 22

mineral royalty information review. Aug, 816

US coal exports increase 13% in 1985. Oct, 945

Materials handling:

annual review. May, 345

coal slurry loading/unloading in Japan. Apr, 261

five-flight conveyor is economical. Jan, 12

McClelland, G.E.: Agglomerated and unagglomerated heap leaching behavior is compared in production heaps. Jul, 500

McJunkin, reaches \$5.5 million settlement with dead miners families. May, 306

McLaughlin mine, large gold mine comes on-stream. Jan, 24

Metallurgy and mineral processing plant at St. Joe's El Indio mine in Chile. E.H. Smith. Oct, 971

Methane, extraction from coalbeds studied. Aug, 805

Methanol, bill urges its use in cars. Dec, 1085

Mexico:

- 14 t (450,000 oz) of silver hijacked. Aug, 800
- opened its largest copper mine. Jul, 487

Mid-Continent Resources:

- laid off 118 at Redstone. Feb, 84
- steel strike closes two coal mines. Oct, 945
- Mill operations, expansions, annual review. May, 345

Milling, Australian stamp batteries are historic. Jul, 489

Mine development:

- new concept for coal pillar design needed. Nov, 1033
- quality control, shipment planning at Carter Mining. Dec, 1115
- site planning process to evaluate mined land. Jun, 427

Mine subsidence effects on a pressurized natural gas pipeline. V.J. Hucks, C.K. Blair, and E.P. Kimball. Oct, 980

Mineral processing:

- annual review, introduction. May, 340
- concentration technology developments. Sep, 885
- effect of changing energy economics. Jan, 45
- El Indio plant described. Oct, 971
- MIP model for production scheduling and processing facilities selection and location. Feb, 107

Silver King opens gold plant. Dec, 1091

treatments for difficult copper porphyry ores. Sep, 905

Minerals processing developments outlined for various areas of concentration technology. D.R. Nagaraj. Sep, 885

Mining methods, comparing borehole and conventional methods for phosphate mining. Jan, 33

Mining, annual review, introduction. May, 331

Minnesota, section meeting, Duluth. Mar, 168

Mississippi, annual review. May, 330

Missouri:

- annual review. May, 326
- cobalt recovery from lead is possible. Jun, 401
- Mobil Oil, to sell platinum interest and get out of mining. Oct, 948
- Modeling, cost model developed for gold operations. Oct, 947

Molybdenum:

- Amax lowers production at Colorado mines. Aug, 798
- Los Bronces deposit explored. Mar, 187

Montana Resources:

- may reopen Butte copper mines. Jul, 484
- renews copper operations at Butte. Oct, 948

Montana:

- annual review. May 326
- Butte copper mines may reopen. Jul, 484
- five-flight conveyor is economical. Jan, 12
- operations at Butte copper renewed. Oct, 948
- Stillwater begins mine construction. Oct, 945
- Stillwater mine plan approved. Apr, 230

Moore, D.: Design and construction outlined of the Cannon mine tailings impoundment. Aug, 813

Morgan, J.D.: US and the world mineral positions, 1985 to the year 2000. Apr, 244

Morris, C.: Summer course and field trips helps teachers understand mining industry. Mar, 175

Morse Brothers Machinery, auctioned off used equipment. Jan, 9

Mukherjee, S.K.: Design guidelines for improved water spray systems. Nov, 1054

Murree, G., enters Arizona Mining Hall of Fame. Feb, 83

enters Arizona Mining Hall of Fame. Feb, 83

N

Nadkarni, R.M.: Steps outlined to ensure precious metals miners have good relationships with their refiners. Oct, 959

Nagaraj, D.R.: Minerals processing developments outlined for various areas of concentration technology. Sep, 885

Nagata, K.: Research on slurry loading/unloading of coal vessels in Japan. Apr, 261

National Defense Stockpile, GSA selling excess tungsten. Jul, 475

National Gypsum, company reports. Jun, 402

National Western Mining Conference, Administration ignores mining. Apr, 229

NCA, tax proposal would boost coal's tax by \$1.1 billion. Jun, 397

Nepheline syenite, annual review. May, 363

Nerco Coal, opened Wyoming Antelope coal mine. Mar, 160

Nevada:

- FMC dedicates Paradise Peak. Jun, 401
- Inspiration Resources looks for gold. Jul, 481
- Paradise Peak begins production. Dec, 1102
- performs own nuclear repository study. Nov, 1019
- Silver King processing plant opens. Dec, 1091

New Castle Energy, developing Coal Ridge No. 1 mine. Mar, 160

New look at underground coal mine safety. E.M. Spokes. Apr, 266

New Mexico:

- annual review. May, 326
- brings mine, load-out system on-line. Dec, 1089

Newmont Mining:

- company reports. Jun, 4C3
- copper spin off plans more leaching. Dec, 1090
- copper union concessions avert strike. Aug, 798
- part of 1.2-t/a (400,000-oz per year) gold mill near Kalgoorlie. Mar, 161
- speaker urges mining to take charge of its own fate. Mar, 156

Nicor Minerals Ventures, acquired by Costain Holdings. Apr, 236

Norsk Hydro, to build \$400 million magnesium plant in Canada. Dec, 1092

North American Coal:

- became subsidiary of NACCO. Jul, 487
- company reports. Jun, 403

North Dakota:

- annual review. May, 330
- Great Plains faces foreclosure sale. Jun, 397

Nuclear power:

- dump sites narrowed to three candidates. Jul, 475
- Nevada performs own study of repository. Nov, 1019
- Senate guts waste disposal program. Dec, 1085
- waste repository candidates narrowed. Mar, 151

O

O'Neill, T.:

- A. Tobey Yu: Interview with SME president. Mar, 163
- Pittsburgh again hosts annual AMC coal convention. Jul, 492

Occidental, closes Cathedral Bluffs. Jul, 482

Ohio:

- annual review. May, 326
- sues DOE for operating uranium plant. May, 306

Oil shale:

- 60-year-old lease suit settled. Sep, 867
- BLM to end leasing in the fall. Apr, 225
- Cathedral Bluffs operation closed. Jul, 482
- Congress seeks to stop Unocal awards. Aug, 793
- Democrats try to halt land transfer. Oct, 941
- Hart tries to delay land transfer. Nov, 1015
- Synfuels axed, Parachute may survive. Feb, 81
- Unocal considers FBC at Parachute. Nov, 1021
- Ok Tedi, to mine more gold, holds off on copper. Dec, 1090

Old Ben Coal, reduces headquarters staff, moves to Cleveland. Sep, 875

Olivine, annual review. May, 364

Olson, J.P.: Computer-based dispatching in mines, with concurrent objectives. Nov, 1045

Olympic Mining, to build mine and mill at Corona Industrial Sand project. Dec, 1092

On nonnegative weights of linear kriging estimation. E.Y. Baafi, Y.C. Kim, and F. Szidarovszky. Jun, 437

Open-pit mining:

- 1986 Jackling Lecture, lessons in stability. Aug, 823
- annual review. May, 337
- Tenneco opens McCoy gold mine. Oct, 947
- Oregon, annual review. May, 328
- Overton, J.A., retired as AMC president. Mar, 160
- Ozark-Mahoning, lone US producer of fluorspar. Nov, 1030



Paper, may replace tin for soup cans. Mar, 155

Paradise Peak precious metals mill begins production ahead of schedule and under budget. L.J. Buter and D.J. Collins. Dec, 1102

Parkinson, J.W.: Physical coal cleaning to reduce Illinois No. 6 seam coal's slagging potential. Aug, 830

Peabody Coal, opens Kentucky underground mine. Sep, 872

Pegasus Gold:

- begin operating Florida Canyon mine. Nov, 1022
- Centennial Minerals acquires Montana Tunnels. May, 306
- purchased Relief Canyon mine. Oct, 948

Pelham, L.: Fluorspar - trends and changes in production and use. Nov, 1025

Peng, S.S.:

- Case studies illustrate the need for a new concept of coal pillar design. Nov, 1033
- Underground coal mining and attendant subsidence control: Some history, technology, and research. Feb, 95

Penn State, creates independent courses for engineers. Apr, 233

Pennsylvania:

- anthracite waste burning facility under construction. Aug, 797
- three coal miners killed. Feb, 84
- Perlite, processing for insulation applications. Jan, 40

Petty, P.: Summer course and field trips helps teachers understand mining industry. Mar, 175

Phelps Dodge:

- company reports. Jun, 403
- G.R. Durham becomes CEO. Jul, 486
- Munroe enters Arizona Mining Hall of Fame. Feb, 83
- reopens Douglas smelter. Sep, 871
- sold 15% interest in Morenci to Sumitomo. Apr, 235
- will spend \$90 million to expand Morenci. Feb, 84
- Phillips Petroleum, quits Vernal shale project. Mar, 160

Phosphates:

- comparing borehole and conventional methods. Jan, 33
- evaluation of potential radon exposure from Georgia deposits. Mar, 195

Physical coal cleaning to reduce Illinois No. 6 seam coal's slagging potential. C.D. Harrison and J.W. Parkinson. Aug, 830

Physical separation, annual review. May, 347

Pincock, Allen & Holt, develops cost models for gold operations. Oct, 947

Pine Points Mines, may close Yellowknife lead-zinc mine. Feb, 84

Pioneer Metals, reopens Stibnite gold mine. Dec, 1091

Pittsburgh again hosts annual AMC coal convention. T. O'Neill. Jul, 492

Placer Development:

- company reports. Jun, 403
- reopened Endako moly mine. Aug, 800

Platinum group metals:

- Gold Fields plans South African platinum mine. Aug, 799
- Reagan wants to sell \$21 million from stockpile. Apr, 225
- Stillwater begins mine construction. Oct, 945
- Stillwater mine plan approved. Apr, 230

Poland, seventeen coal miners killed. Feb, 84

Powers Engineers, provides services to China copper mine. Jul, 486

Precious metals:

agglomeration helps recovery.* Dec, 1105
 Paradise Peak begins production.* Dec, 1102
 Silver King opens processing plant. Dec, 1091
 South Dakota groups wants to ban heap leaching. Dec, 1091
 steps to maintaining good relations between miners and refiners.* Oct, 959
 Stillwater begins platinum mine construction. Oct, 945
 Process mineralogy, annual review.* May, 348
*Processing perlite for use in insulation applications**, R.F.L. Jackson. Jan, 40
 Productivity, your company can achieve unlimited productivity.* Mar, 171
*Progress report on Cominco's Red Dog project in Alaska, second largest zinc deposit ever discovered** H.M. Giegerich. Dec, 1097
 Pumice & pumicite, annual review.* May, 364

Q

*Quality control and shipment planning at The Carter Mining Co.** J.D. Brown, J.A. Dille, and J.P. Hand. Dec, 1115
 Quartz crystal, annual review.* May, 365

R**Railroads:**

BN must refund \$40 million to utility. May, 299
 ICC cancels rate increase. Oct, 941
Ramani, R.V.:
*Generalized multiperiod MIP model for production scheduling and processing facilities selection and location** Feb, 107
*Regional comparison of postmining land use practices** Sep, 897
*Site planning process: Application to land use potential evaluation for mined land** Jun, 427
 Reagan, R., acid rain plan agreed to with Mulroney. May, 299

*Recent lessons that have been learned in open-pit mine stability, 1986 Jackling Lecture** C.O. Brawner. Aug, 823
*Reclamation, postmining land use practices compared** Sep, 897
 Recycling, tin from primary production residues.* Dec, 1120
*Red Dog, progress report on Cominco's zinc deposit** Dec, 1097
 Refining, steps to maintaining good relations between miners and refiners.* Oct, 959
*Regional comparison of postmining land use practices** R.J. Swiegard and R.V. Ramani. Sep, 897
*Research on slurry loading/unloading of coal vessels in Japan** T. Kawashima, S. Tejima, and K. Nagata. Apr, 261

Research:

annual review, coal.* May, 352
 Bureau has device to detect unstable roof rock. Mar, 158
 DOE gets more money than it wants. Sep, 867
 Has enough been done for US mining? Jun, 413
 U of Alabama research complex built. Jul, 484
*Results given of studies concerning methane extraction from coalbeds** M.A. Trevits and G.L. Finfinger. Aug, 805
 Rhode Island, annual review.* May, 330
Rio Algom:
 company reports. Jun, 403
 East Kempton ships first tin concentrate. Feb, 84
 Rivera, A.: *Events leading to Colombia's Ruiz volcano eruption and its results described** Feb, 99
Rocky Mountain Energy:
 explores for uranium in West. Sep, 875
 resolves 8-year-old development dispute in Wyoming. Apr, 230
 Roof falls, bureau develops device to detect unstable rock. May, 158
 Royal Gold, to lease Camp Bird gold mine. Oct, 948

S

Sahay, H.: *Canadian coal industry: Developments in resource conservation and productivity improvement** Sep, 879
 Salaries, engineers salaries increase in 1985. Oct, 946
 Savage, G.D.: *Cerrojon North Block project is making Colombia a major coal exporter** Jun, 409
 Schmidt, K.W.: *Battle Mountain describes the geology of its gold-silver deposit at Copper Canyon** Jul, 495
 Sciulli, A.G.: *Environmental approach to coal refuse disposal** Mar, 181
*Secondary recycle of tin from primary production residues in the US** T.S. Mackey. Dec, 1120
Senate:
 tax plan would help steel, hurt coal. Jul, 475
 tax would boost coal taxes \$1.1 billion. Jun, 397
 Silica sand, annual review.* May, 365
*Silver distribution described at the Brunswick No. 12 massive sulfide deposit** W.M. Luff. Oct, 963
 Silver King Mines, processing plant opens. Dec, 1091
Silver State Mining:
 acquired lease adjoining Tonkin Springs. Apr, 235
 begins Tonkin Springs production. Jan, 9
 leases Nevada gold mining claims. Sep, 875
Silver:
 agglomeration helps leaching recovery.* Dec, 1105
 annual review.* May, 333
 distribution at Brunswick massive sulfide deposit described.* Oct, 963
 Pioneer reopens Stibnite mine. Dec, 1091
 Silver King opens processing plant. Dec, 1091
 Singh, M.M.: *Design guidelines for improved water spray systems** Nov, 1054
 Singhal, R.K.: *Canadian coal industry: Developments in resource conservation and productivity improvement** Sep, 879
*Site planning process: Application to land use potential evaluation for mined land** R.J. Swiegard and R.V. Ramani. Jun, 427
 Skowroski, M.G.: *Evaluation of potential radon exposure from development of Georgia phosphate deposits** Mar, 195
 Slurry, coal loading/unloading in Japan.* Apr, 261
*SME Board recommends changes in the Articles of Incorporation and Bylaws** Nov, 1040
SME:
 115th AIME Annual Meeting wrap-up.* Apr, 249
 A.T. Yu, SME president's interview.* Mar, 163
 creates independent courses for engineers. Apr, 233
 head teaching course precedes AMC show. Aug, 875
 President's report. Nov, 1014
 readership survey results.* Jan, 17
 SME Board recommends changes in the Articles of Incorporation and Bylaws.* Nov, 1040
 Smith, E.H.: *Metallurgy and mineral processing plant at St. Joe's El Indio mine in Chile** Oct, 971
 Snedeker, M.: *What we learned about MINING ENGINEERING and you** Jan, 17
Soda ash:
 annual review.* May, 365
 US producers want Japanese concessions. Aug, 797
 Sodium sulfate, annual review.* May, 366
Solution mining:
 annual review.* May, 338
 Newmont spin off to leach more copper. Dec, 1090
 technical innovations spur resurgence.* Nov, 1036
 Somincor, plans \$250 million copper expansion at Portuguese mine. Oct, 949
South Africa:
 ferroalloys will be included in sanctions. Dec, 1085
 Gold Fields plans large platinum mine. Aug, 799
 gold mine fire kills 177 miners. Nov, 1019
 minerals cartel possible with Soviets. Jan, 8
 trolley assist at Sishen iron mine.* Apr, 237
 South Dakota, group wants to ban heap leaching. Dec, 1091

Soviet Union, minerals cartel with South Africa possible. Jan, 8

Specialty metals, US consumption slightly higher in 1985. Mar, 159
 Spangler, R.J.: *Instrumented-flexibly-lined loading pocket** Jun, 433
 Spokes, E.M.: *New look at underground coal mine safety** Apr, 266

St. Joe Gold:
 Chile's El Indio processing plant described.* Oct, 971
 discovers gold on Canadian property. May, 306
Standard Oil:
 quits Vernal shale project. Mar, 160
 sells two copper mines to get out of mining. Nov, 1022
 takes \$1.5 billion fourth quarter charge. Feb, 82
 Staurolite, annual review.* May, 366
 Stearns Catalytic, bought by United Engineers & Construction. Nov, 1022

Steel:
 Austria to limit shipments to US. Feb, 77
 can survive, but running out time.* Mar, 168
 Customs closes specialty steel tax loophole. Aug, 793

import restraints sought from three countries. Nov, 1015
 one company receives clean coal funds. Nov, 1020

US clamps down on Common Market imports. Apr, 231

US Steel (USX) enters joint venture with Korean steel company. Feb, 83

Steffen Robertson and Kirsten, Cannon's tailings impoundment described.* Aug, 813
*Steps outlined to ensure precious metals miners have good relationships with their refiners** P.D. Chamberlin, D.J. Kinneberg, and R.M. Nadkarni. Oct, 959

Stillwater Mining:
 mine construction begins. Oct, 945
 mine plan approved by Forest Service. Apr, 230
 Stoiser, L.R.: *Exploration and geologic evaluation of the Los Bronces copper-molybdenum deposit, Chile** Mar, 187

Strategic minerals:
 cobalt recovery possible from Missouri lead. Jun, 401
 council to assess nation's needs. Jan, 3
 Reagan wants to sell \$250 million worth. Apr, 225
 William Martin named to materials council. May, 299

Strontium, annual review.* May, 367
*Study shows downward trend in mining engineering enrollments, suggests courses of action** E. Ashworth. Aug, 809

Subsidence:
 effects of moisture variations and overburden on subsidence.* Feb, 115

effects on a natural gas pipeline.* Oct, 980
 underground control examined.* Feb, 95

Sulfur, annual review.* May, 367

*Summer course and field trips help teachers understand mining industry** C. Morris and P. Petty. Mar, 175

Sun Co., quits Vernal oil shale project. Mar, 160

Sunshine Mining:

company reports. Jun, 403
 loses \$25 million in second quarter. Oct, 948

reopens Sunshine silver mine. May, 306
 Superfund, Congress passes Superfund bill. Dec, 1085

Sweden, recovering metals from steel dust and waste. Jul, 481

Swiegard, R.J.:
*Regional comparison of postmining land use practices** Sep, 897

*Site planning process: Application to land use potential evaluation for mined land** Jun, 427

Symposia, technical sessions aimed at making US mining industry competitive with the rest of the world* S. Kral. Apr, 249

Syncrude Canada Ltd. outlines its feeder breaker testing and development* D.G. Adam. Jun, 420

Syncrude Canada, outlines feeder breaker testing* Jun, 420

Synthetic fuels:
 agency closed, budget rescinded. Feb, 81

Cathedral Bluffs oil shale closed. Jul, 482
Congress seeks to stop Unocal awards. Aug, 793
consortium must pay full price for Great Plains
oil. Mar, 151
Great Plains face foreclosure sale. Jun, 397
Szidarovszky, F.: *On nonnegative weights of linear
kriging estimation.** Jun, 437

T

Talc, annual review.* May, 368

Tax:

Senate plan would help steel, hurt coal. Jul, 475
Senate's version boosts coal's tax \$1.1 billion.
Jun, 397

Technical innovations spur resurgence of copper
solution mining.* J.B. Hiskey. Nov, 1036

Technology news:

Australian mines need bigger trucks. Sep, 893
belt conveyor helps pellet transfer. Dec, 1111
Cat unveils largest tractor to date. Jun, 404
five-flight conveyor is economical. Jan, 12
Swedish company recovers zinc and lead from
steel dust and waste. Jul, 481
wire ropes stop centrifuge vibration. Dec, 1110

Teck:

operations at Newfoundland zinc mine suspended.
Apr, 236
reduced coal price from Bullmoose mine. Oct,
949

Tejima, S.: *Research on slurry loading/unloading
of coal vessels in Japan.** Apr, 261

Tenneco Minerals:

opens Nevada gold mine. Oct, 947
sells gold mines to Echo Bay. Nov, 1022
started up McCoy gold mine. Jul, 486

Timminco, will develop celestite deposit. Jan, 9

Tin:

LME calls in debts, millions lost. May, 303
recycle from primary production residues.* Dec,
1120

Titanium minerals, annual review.* May, 368

Tosco:

Democrats try to halt oil shale land transfer. Oct,
941
Hart tries to delay oil shale land transfer. Nov,
1015
wins 60-year-old oil shale suit. Sep, 867

Trask, B.: *Economic incentive for crawler/
transporter use in mobilizing portable rock
handling equipment.** Apr, 255

Treatment methods for difficult-to-float copper porphyry
ores.* S.G. Malghan. Sep, 905

Trevits, M.A.: *Results given of studies concerning
methane extraction from coalbeds.** Aug,
805

Tri-Con Mining, reopens Alaska's only deep shaft
gold mine. Jul, 481

Trolley assist aids haulage at Iscor's Sishen iron
mine in South Africa.* B.J. Vorster. Apr, 237

Trona, producers want Japanese concessions.
Aug, 797

Tungsten, GSA selling excess stock. Jul, 475

TVA, tests 20-MW FBC pilot plant.* Apr, 240

U

Underground coal mining and attendant subsidence
control: Some history, technology,
and research.* C.Y. Chen and S.S. Peng.
Feb, 95

Underground mining:

annual review, coal.* May, 353
annual review.* May, 339
new at coal mining safety.* Apr, 266
Peabody opens Kentucky coal mine. Sep, 872
subsidence control examined.* Feb, 95
subsidence effects on natural gas pipeline.* Oct,
980

Union Carbide, sold worldwide metal businesses.
Jul, 486

Union Oil:

closed Molycorp's Questa moly mine. Apr, 235
Congress seeks to stop Synfuels award. Aug,
793

Considers FBC at Parachute Creek. Nov, 1021

Hart tries to delay oil shale land transfer. Nov,
1015
Parachute project may survive Synfuels' closure.
Feb, 81
wins 60-year-old shale suit. Sep, 867
*Unlimited productivity - your operation can achieve
it.** V. Bovino. Mar, 171

Uranium:

bill would cut imports 50%. Apr, 225
court upholds DOE enrichment restrictions. Oct,
941

DOE ordered to use less imported material. Aug,
793

government not pumping life into domestic industry. Apr, 229
guarded wounded by gunfire at closed Kerr-McGee plant. Apr, 231

Senate bill helps domestic industry. Nov, 1015
*US and the world mineral positions, 1985 to the
year 2000.** J.D. Morgan. Apr, 244

*US government's stance on minerals issues draws
heavy criticism at mining meetings.** S.Kral
and R. Jenkins. Jan, 27

US government:

BLM

Democrats try to halt oil shale transfer. Oct,
941

final changes for coal leasing released. Jul,
482

loses oil shale lease suit. Sep, 867
will end oil shale leasing this fall. Apr, 225

Bureau of Mines
1985 nonfuel mineral production is up. Jul, 484
develops device to detect unstable roof rock.
Mar, 158

Congress

adds Buy American clause in Defense budget.
Oct, 941

bill urges methanol use in cars. Dec, 1085
passes \$8.5 billion Superfund bill. Dec, 1085
seeks to stop Unocal synfuels awards. Aug,
793

Senate bill guts Nuclear Waste program. Dec,
1085

wants Reagan to negotiate restraints. Feb, 77

Customs Service
closes specialty steel tax loophole. Aug, 793
halts Common Market steel imports. Jan, 3

Defense Department
Buy American clause included in budget. Oct,
941

to double its coal use by 1994. Sep, 867

Department of Energy
bill restricts use of foreign uranium. Nov, 1015
bill would cut uranium imports 50%. Apr, 225
clean coal program already under attack. Nov,
1020

consortium must pay full price for Great Plains
oil. Mar, 151

gets more R&D money than it wants. Sep, 867
narrows nuclear waste candidates. Mar, 151
Nevada performs own study of repository. Nov,
1019

nuclear dump narrowed to three sites. Jul, 475

Nuclear Waste disposal program gutted. Dec,
1085

one steel company receives coal funds. Nov,
1020

ordered to use less imported uranium. Aug, 793
received 51 clean coal proposals. Jun, 397
restrictions on foreign uranium upheld. Oct,
941

resumes regional coal leasing. May, 303
takes over Great Plains project. Jun, 397
wants repayment of Federal aid for CCT's. Apr,
225

EPA
allows PD to reopen Douglas copper smelter.
Sep, 871

not forced to tighten sulfur dioxide restrictions.
Nov, 1015

study could lead to mining waste laws. May,
299

waste exclusion draws criticism. Jan, 3

Forest Service
approves Stillwater mine plan. Apr, 230

General Service Administration
selling excess tungsten. Jul, 475

ICC
ordered BN to refund \$40 million to utility. May,
299

rules against railroad rate increase. Oct, 941

MSHA

investigates death of mining engineer. May,
305

still investigating Wilberg fire. Sep, 871

Synthetic Fuels Corp.
gets axed, \$6.1 billion budget rescinded. Feb,
81

Treasury Department
will mint gold coins. Feb, 77

US Minerals Exploration:
begins second development stage at Green
Springs. Oct, 948

sells Montana Tunnels to Centennial. May, 306

*US mining: Have we done enough? Are we doing
enough for the future?** I. Iwasaki. Jun, 413

US Steel, USX:
enters joint venture with Korean company. Feb,
83

steel strike closes two Colorado coal mines. Oct,
945

USX sold coal mine to Kaiser Coal. Mar, 160

Utah:
Kennecott recalls Bingham workers. Oct, 948
Wilberg still being investigated. Sep, 871

V

Ventilation, annual review.* May, 339

Virginia, annual review.* May, 329

Voluntary restraints:

Austria to limit shipments to US. Feb, 77
steel restraints sought from three countries. Nov,
1015

US clamps down on Common Market imports.
Apr, 231

Vorster, B.J.: *Trolley assist aids haulage at Iscor's
Sishen iron mine in South Africa.** Apr, 237

W

Washington:

annual review.* May, 329

Northwest Mining Association wrap up.* Jan, 27

Waste disposal:

environmental approach to coal refuse.* Mar,
181

EPA study could lead to regulations. May, 299
EPA's waste exclusion criticized. Jan, 3

nuclear dump sites narrowed to three. Jul, 475
nuclear repository candidates narrowed. Mar,
151

Waxman, H., proposes acid rain bill. Jun, 397
Weirton Steel, only steelmaker to receive clean
coal funds. Nov, 1020

Western Australia stamp batteries are operating
museums of mining history.* R. Addison. Jul,
489

Western Fuels-Utah, adds 100-150 people at
Rangeley. Feb, 84

Western Railroad Properties, to move 362 kt/a
(400,000 stpy) of coal. Dec, 1092

*What it's worth: A review of mineral royalty information.** H.L. Bourne. Aug, 816

*What we learned about MINING ENGINEERING
and you.** M. Snedeker. Jan, 17

White, J.W.: *Computer-based dispatching in mines,
with concurrent operating objectives.** Nov,
1045

Wilberg mine, fire still being investigated. Sep, 871

Wollastonite, annual review.* May, 369

World Bank, approves \$110 million loan to Zaire.
Jul, 475

World Gold Council, formed to downplay S. Africa's
gold role. Dec, 1092

Wotroba, P.R.: *Battle Mountain describes the geology
of its Fortitude gold-silver deposit at Copper
Canyon.** Jul, 495

Wu, K.K.: *Environmental approach to coal refuse
disposal.** Mar, 181

Wycon, expands ammonium nitrate plant. Jan, 7

Wyoming:
ammonium plant uses French technology. Jan, 3
annual review.* May, 329

charcoal conversion plant planned. Oct, 946

coal development dispute finally resolved. Apr,
230

Y**Yu, A.T.:**

President's report. Nov, 1014

SME can foster engineering innovation and creativity, help rally mining industry.* Mar, 163

Z

Zaire, gets \$110 million loan from World Bank. Jul, 475

Zeolites, annual review.* May, 369

Zinc:

Alaska builds road for Cominco deposit. May, 303

Boliden buys Greenland mine. Sep, 874
progress report on Cominco's Red Dog.* Dec, 1097

recovered from steel dust and waste. Jul, 481

Zirconium, annual review.* May, 370

**SOCIETY OF MINING ENGINEERS
OF
THE AMERICAN INSTITUTE OF MINING,
METALLURGICAL AND PETROLEUM ENGINEERS**

Membership Certificates

ARE AVAILABLE TO ALL MEMBER GRADES

PERSONALIZED WITH MEMBERS' NAMES, MEMBERSHIP STATUS, AND DATE OF ELECTION

8½ x 11 INCHES

RAISED-LETTER PRINTING AND GOLD SOCIETY SEAL



UNMOUNTED, \$7.00
 MOUNTED, LEATHERETTE \$15.00
 MOUNTED, WALNUT \$30.00

Mail to: General Member Services, Society of Mining Engineers of AIME, Caller No. D, Littleton, CO 80127

Please type or print your name the exact way you would like to see it spelled on the membership certificate.

Please send me a membership certificate

Unmounted (Price: \$7) Mounted, leatherette (Price: \$15)
 Mounted, walnut (Price: \$30)

Payment is made by: Check MasterCard VISA
 American Express

If you use your charge card, fill in the information below:

Expiration Date _____ **MasterCard** _____ Month/Year _____ Interbank Number _____

Credit Card Number _____

Cardholder's Signature _____

Name _____

Street _____

City _____

State _____ **Zip** _____

Country _____

Member Number _____

PART 2—SME News

A

Academia discussed, Jan 53

AIME:

- Annual Meeting 1986, Jan 10
- Annual Meeting 1987, Aug 839, Sep, 913, Oct 987
- Awards, Feb 85
- Raymond presented to D.R. Hansen, Jul 509
- Business meeting, Jan 55
- Honorary Member nominations, Mar 201
- American Mining Congress (AMC):**
- International Mining Show, Aug 796
- SME Short Course at, Feb 130
- Appleyard, F.C., Feb 129
- Arbiter, N., Jan 55
- Assn. of Exploration Geochemists student paper contest, Sep 916
- Awards:**
- AIME Honorary Member, Mar 201
- Charles F. Rand Memorial Gold Medal, Feb 85, 125
- Coal Div. Young Engineer, Apr 273
- Erskine Ramsey Gold Medal, Feb 85
- Gaudin, Jan 55, Feb 125, 126
- Gaudin nominations, Mar 201
- GEM, Feb 125, 126
- Hardinge, Jan 55, Feb 85
- Honorary Members, AIME, Feb 85
- Hoover, Washington, DC, Section, Sep 917
- Howard N. Eavenson, Feb 125
- IndMD Young Scientist, Jun 445
- Jackling, Jan 55, Feb 125, 126
- M&E Div. Service, Feb 125, 126
- Mineral Industry Education, Feb 85
- Mining & Metallurgical Society of America, Feb 129
- MPD Young Engineer, Jun 445
- Percy W. Nicholls, Feb 85
- Raymond presented to D.R. Hansen, Jul 509
- Richards, Jan 55, Feb 85, 125
- Robert Peele, Feb 125, 126
- Rock Mechanics, Feb 125, 126
- SME Distinguished Member nominations, May 373, Oct 992
- Taggart, Feb 125, 126
- University of Missouri-Rolla, Feb 129
- Viet Howard Memorial to J.R. Hoskins, Apr 276
- William Lawrence Saunders Gold Medal, Feb 85, 125
- Young Engineer, Coal, Feb 125, 126

B

- Brawner, C.O., Jan 55, Feb 125, 126
- Brittain, R.L. Feb 85, 125
- Burt, W.H., Feb 85, 125

C

- Call for Papers:**
- Alaskan Conference on Placer Mining, 9th, Aug 843
- American Assn. of Water Resources, Sep 920
- Annual Meeting 1987, Feb 86
- APCOM 1987, May 371
- Explosives & Blasting Techniques, May 375
- Geotechnical & Geohydrological Aspects of Waste Management, Jun 400
- Ground Control in Mining, Sep 917
- Innovative Mining Systems, May 374
- International Symposium on the Production and Processing of Fine Particles, Nov 1065
- Mineral Processing Congress, 26th, Apr 275
- Mine Ventilation Symposium, Nov 1065
- Offshore Technology 1987, Aug 842
- RET C 1987, Mar 201, Apr 275
- Robotics and Factories of the Future, Apr 276

2nd Industrial Temperature Measurement Symposium, Mar 203

2nd International Conference on Case Histories in Geotechnical Engineering, Dec 1140

Small Mines Development in Precious Metals, Oct 993

SME 1987 Eastern Regional Meeting, Oct 991

SME 1988 Annual Meeting, Nov 1018

Southern Hemisphere on Mineral Technology and Mineral Treatment and Hydrometallurgy, Brazil, Jul 511

Southwestern Ground Water Issues, Apr 276

US Symposium on Rock Mechanics, 28th, Oct 991

Coal Division:

nominations, Jul 478

Young Engineer Award, Feb 125, Apr 273

Coal Division Views:

Jan 53, Aug 843, Sep 916, Dec 1140

Coming Events:

Jan 6, Feb 80, Ma. 154, Apr 228, May 302, Jun 400, Jul 476, Aug 796, Sep 870, Oct 944, Nov 1041, Dec 1088

Contests:

Assn. of Exploration Geochemists student paper, Sep 916

SME Outstanding Student Paper, Outstanding Student Chapter, Aug 822

Cortes, A.B., Feb 126

D

Dahl, H.D., Feb 125, 126

Dahstrom, D.A., Feb 85

DeMarcus, B.P., Feb 125, 126

E

Edgar, A.L., at St. Louis Section, Jun 445

Education:

academia discussed, Jan 53

Accreditation Session, 1987 Annual Meeting, Dec 1088

Tunnell Economic Geology Collection, Apr 276

Employment Service:

Jan 59, Feb 133, Mar 207, Apr 281, May 379, Jun 453, Jul 513, Aug 849, Sep 925, Oct 999, Nov 1068, Dec 1143

Engineering Foundation Research grants, Nov 1063

Erickson, A.J., Jr., Feb 125, 126

F

Falkie, T.V., Feb 127
speaks to Colorado Section, Jul 509

Fine Grind:

May 375, Nov 1067, Dec 1141

Free Literature:

Jan 57, Feb 103, Mar 179, Apr 253, May 379, Jun 449, Jul 505, Aug 845, Sep 919, Oct 998, Nov 1041, Dec 1112

G

Government, Education, and Mining (GEM):
Award, Feb 125, 126

H

Hansen, D.R., receives Raymond Award, Jul 509

Hilderman, T.L., receives Pfeifer Scholarship, Jul 511

Hoskins, J.R., honored, Apr 276

Hupka, J., Feb 126

I

Industrial Minerals Division:

nominations, Jul 479

scholarship nominations due, Sep 913

Young Scientist Award, Jun 445

In the Aggregate:

Jun 447, Oct 994, Nov 1066, Dec 1139

Iwasaki, I., Jan 55, Feb 85, 125

K

Kadey, F.L., Jr., Jan 55, Feb 85

Krumb Lecturers, 1987, announced, Dec 1137

Kuchinic, L., Jr., Feb 85

L

Lattman, L.H., Feb 85

Legal Notice:

Statement of Ownership, Management, and Circulation, Nov 1024

Letters:

Jan 6, Apr 234

Local Sections:

Arizona Conference Annual Meeting, Oct 987

Carolinians Section, Apr 228

Colorado hears T.V. Falkie, Jul 509

Colorado Plateau fall field trip, Dec 1141

education support, Minnesota, Sep 917

Florida, phosphate conference, Aug 839 historic mining calendar, Nevada Sections, Nov 1042

Hoover Award by Washington, DC, Sep 917 Intermountain Conference rescheduled, May 371, Jul 476

Mineral Economics Symposium, Washington, DC, Sep 917

North Pacific honors members, May 371 officers, Florida, Apr 273

Off-the-Record Meeting, Pittsburgh, Sep 916

Past Chairman's Nite, Florida, Mar 203

St. Louis hears A.L. Edgar, Jun 445

scholarship awards, Colorado Plateau, Sep 917

Southern Nevada, in situ leaching talk, Aug 842

South Texas Minerals, Feb 128

Upper Mississippi Valley, Mar 201

M

MacGregor, I., Jan 55

Malozemoff, P., Feb 85

Meetings:

African Mining, Aug 840

Alaska Miners Association, Aug 843

AMC International Mining Show, Aug 796

Annual, SME 1986, Jan 10, 51

lecturers for, Jan 55

Annual, SME 1987, Jun 445, Jul 511, Aug 839, Sep 913, Oct 987, Nov 1063, Dec 1135, 1137

Exhibit, Jun 445, Jul 507, Aug 841, Sep 915, Oct 989, Nov 1044, Dec 1133

Symposia, Oct 990

Annual, SME 1988, Nov 1018, 1063, Dec 1137 Call for Paper, Nov 1018

Conexpo '87, Dec 1139

Arizona Conference Annual, Oct 987

Asia/Pacific Mining Conference, Aug 844

Bulk Minable Precious Metals, Sep 870

Carolinians Section, Apr 228

China Metals '87, Oct 944

Clay Minerals Society, 23rd, Apr 274

Computer Aided Design and Monitoring in Geotechnical Engineering, May 374

Congress of the Council of Mining & Metallurgical Institutions, 13th, Mar 203

Continuous Surface Mining, May 374

Copper 87—Economics, Metallurgy and Process Control, Jun 446
Dense Medium Operator's Conference, Oct 987
Dredging & Placer Mining, Sep 916
Drilling Symposium, 3rd, Aug 844
Dump and Underground Biological Leaching Processes, Jun 448
Environmental Effects of Mining and Restoration, Apr 274
Environmental Problems in Karst Terranes, May 375
Explosives and Blasting Techniques, Oct 987
Extractive Industry Geology 87, Sep 920
Florida Section, Mar 203
Flow-Through Rock Drains for Mine Waste Dumps, May 374
Flue Gas Desulfurization, Sep 920
Focus on Alaska's Coal 86, Jun 446
Geological Society of America section, Aug 844
Geophysical and Geochemical Exploration, Sep 920
Geostat Committee, Sep 918
Geotechnical Stability in Surface Mining, Mar 203
Gold 100—International Conference, Feb 80
Hazardous Waste Issues, Rocky Mountain Region, Aug 842
HazMat/Canada, Sep 920
HazMat/West 86, Aug 844
HAZTECH International, Jul 509
Industrial Minerals International Congress, 7th, Mar 203
Innovations in Gold and Silver Recovery, May 372
Intermountain Minerals Conference, May 371, Jul 476
International Congress on Rock Mechanics, May 374, Nov 1066
International Symposium on Iron Control in Hydrometallurgy, Aug 796
Leobener Bergmannstag 1987, Oct 944
Management & Economics of Mining Operations, Jun 443
Managing for Strategic Advantage, Sep 920
McKelvey Forum, USGS, Oct 944
Mineral Economics Symposium, Sep 917
Mining China 86, Apr 228
Mining Latin America, Apr 274
Monitoring, Modeling, and Mediating Water Quality, Aug 843
National Mined Land Reclamation Conference, Jun 400
North Pacific Section, May 371
Northwest Mining Association, Feb 127, May 374, Sep 926
Offshore Technology Conference, Feb 129
Off-the-Record, Pittsburgh, Sep 916
Pacrim Congress 87, Jun 400
Pan American Congress on Energy, 3rd, Mar 203
Plant Enhancement in the Mining & Metallurgical Industries, Apr 274
pollution conferences, Jun 447
Practical Automation for the Crushed Stone Industry, Sep 920
Precious Metals Risk Management, Aug 842
Problems and Opportunities during Hard Times, Mar 201
Project Development Symposium, Aug 842
Pyrometallurgy 87, Aug 840
Rapid Excavation and Tunneling Conference (RETC), Oct 991
Santiago International Trade Fair, Aug 844
Small Mines Development in Precious Metals, Nov 1063
Small Mine Economics and Development, Oct 944
SMF Fall 1986, Feb 127, Mar 154, Apr 273, Jun 443, Jul 509
advanced information, program, May 378A
three Short Courses, Jun 444
Southeast Asian Geotechnical Conference, 9th, Aug 844
Surface Mining and Reclamation, Sep 920
Symposium on Bulk Mineable Precious Metals Deposits, Mar 203

Tecnomin 86, Peru, Aug 844
Tenth International Coal Preparation Congress, Feb 80, Jun 443
Third International Conference on Hydrocyclones, Aug 844
US Symposium on Rock Mechanics, 27th, Mar 203
Underwater Mining Institute, Jun 448
Upper Mississippi Valley Section, Mar 201
UTRC Annual, May 371
Water Jet Symposium, Apr 274
Western Mining Conference, 90th, Jul 509
World Mining Congress, 1987, May 371
Workshop, Generic Mineral Technology Center, Aug 844

Membership:

Jan 60, Feb 134, Mar 208, Apr 282, May 381, Jun 454, Jul 514, Aug 850, Sep 925, Nov 1068, Dec 1144

Miller, J.D., Feb 125, 126

Mineral Processing Division (MPD):

nominations, Jul 508
scholarship nominations due, Sep 913
scholarship winners, Jun 445

Young Engineer Award, Jun 445

Mine Safety & Health Administration:

coal short course, Jan 53
mine emergency courses, Feb 128

Mining & Exploration Division (M&E):

nominations, Jul 479
Pfleider Scholarship to T.L. Hilderman, Jul 511
scholarship fund activity, Jan 54
scholarship nominations due, Sep 913
Service Award, Feb 125, 126, Nov 1066
Mining & Metallurgical Society of America, Feb 129

N

Necrology:

Jan 52, Feb 128, Mar 202, Apr 274, May 372
Jun 446, Jul 510, Aug 840, Sep 914, Oct 988, Nov 1064, Dec 1138

New Books:

Jan 30, Feb 106, Mar 180, Apr 254, May 309, Jun 405, Jul 504, Aug 801, Sep 923, Dec 1114

New Products:

Jan 31, Feb 104, Mar 205, Apr 279, May 307, Jun 406, Jul 508, Aug 802, Sep 876, Oct 951, Nov 1023, Dec 1093

Nominations, SME, Divisions, Jul 477

North Carolina Board for Licensing of Geologists, Apr 276

O

Obituaries:

Behre, Charles H., Jr., May 372
Bell, R.W., Jan 52
Brown, John S., Mar 202
Cassano, J., Sep 914
Cole, Sandford S., Oct 988
Cutting, D.E., Aug 840
Egan, Howard N., Apr 274
Fertig, Claude Edward, May 372
Fleischman, Herbert, Dec 1138
Glaeser, O.A., Feb 128
Goss, W.P., Feb 128
Graham, F.A., Jul 510
Griffith, Robert Fisk, Dec 1138
Hunt, A.E., Jan 42
Keener, W.H., Jul 510
Keyes, H.E., Jan 52
Lefond, Stanley J., Mar 202
Leighton, Fred W., Dec 1138
Marlatt, J.W., Feb 129
Nelson, Reid M., Apr 274
Patrick, C.W., Sr., Sep 914
Ransome, A.L., Sep 914
Rathburn, D.R., Jun 446
Richards, R.L., Jun 446
Schick, R.B., Aug 840
Scott, D.W., Feb 128
Service, A.L., Sep 914
Still, J.W., Oct 988
Weiss, Norman, Nov 1064
Offshore Technology Conference, Feb 129

P

Parks, G.A., Jan 55, Feb 125, 126

Personal News:

Jan 58, Feb 132, Mar 204, Apr 278, May 376, Jul 512, Sep 926, Oct 997, Dec 1142

Petty, P.C., Feb 125, 126

Print List:

Jun 425, Oct 970

President's Report 1985, May 313

President's Report 1986, Nov 1014

R

Rapid Excavation and Tunneling Conference (RETC) 1987, Mar 201, Apr 275, Oct 991

Rock in the Box:

Jan 54, Jun 448, Sep 918

S

Samples, R.E., Feb 125

Scholarships:

Colorado Plateau awarded, Sep 917

Division nominations due, Sep 913

G.V. Henderson winners, Apr 275

M&E activity, Jan 54

Pfleider (M&E) to T.L. Hilderman, Jun 511

Minnesota Section, Sep 917

MPD winners, Jun 445

Viola Vesta Coulter winner, Apr 276

Short Courses:

Jan 6, Feb 80, Mar 154, Apr 228, May 302, Jun 400, Jul 476, Aug 796, Sep 870, Oct 944, Nov 1042, Dec 1088

Annual Meeting 1986, Jan 56

at AMC, Feb 130, Apr 276

MSHA coal, Jan 53

MSHA mine emergencies, Feb 128

roof and rib control, Apr 228

Sampling of Particulate Materials, Aug 842

three, SME Fall Meeting, Jun 444

University of Colorado hazardous wastes, water, May 374

Society of Mining Engineers, Inc (SME):

Annual Meeting 1986, Jan 10, 51

lecturers for, Jan 55

short courses, Jan 56

Annual Meeting 1987, Feb 86, Jun 445, Jul 511, Aug 839, Sep 913, Oct 987, Nov 1063, Dec 1134, 1137

Exhibit, Jun 445, Jul 511, Aug 841, Sep 915, Oct 989, Nov 1044, Dec 1133

Symposia, Oct 990

Annual Meeting 1988, Nov 1018, 1053, Dec 1137

awards, Feb 125, 126

Board of Directors, Jan 51, Aug 839

Distinguished Members 1985, Feb 126

Distinguished Member nominations, May 373, Oct 992

Division scholarship nominations due, Sep 913

Dues Bill 1987, Sep 917

Eastern Regional Meeting 1987, Oct 991

Fall Meeting 1986, Feb 127, Mar 154, Apr 273, Jun 443, Jul 509

advanced information, program, May 378A

three short courses, Jun 444

holidays 1987, Dec 1139

Krumb Lecturers 1987, Dec 1137

meeting of members, Jan 55

Membership Directory, Jul 517

Mine Ventilation Symposium, Nov 1065

nominations, Jul 477

Preprint Lists, Jun 425, Oct 970

Presidents' Report 1985, May 313

President's Report 1986, Nov 1014

Rapid Excavation and Tunneling Conference, Oct 991, Nov 1065

Small Mines Development in Precious Metals, Oct 993, Nov 1063

Strauss, S.D., Jan 55

Student Chapters:

University of Idaho award, Apr 276

U
University of Missouri-Rolla award, Feb 129

V
van Zyl, D., Feb 125, 126

W
WAAIME:
Annual Meeting 1986, Jan 51
Annual Meeting 1987, Dec 1140
membership application, Apr 255
officers, 1986-87, Nov 1042

Washington Survey:
Jan 3, Feb 77, Mar 151, Apr 225, May 299,
Jun 397, Jul 475, Aug 793, Sep 867,
Oct 941, Nov 1015, Dec 1085
Watson, G.A., 917

Z
Zegeer, D.A., Feb 85

FOUR NEW BOOKS FROM SME

Mine Hydrology

by R. E. Williams, G. V. Winter,
G. L. Bloomsburg, D. R. Ralston
(1986, 169 pages)

Presents an analysis of the state of the art methodologies and technologies available for predicting mine water inflow and its impact on the hydrology of the vicinity of the mine. Data collection techniques, equipment, and mathematical model simulation of mine water inflow are discussed and applied to two existing mines

Prices: M US \$43.50, SM US \$38.50,
NM US \$63.50 Order No. 561

Rock Mechanics: Key to Energy Production

H. L. Hartman, editor
(1986, 976 pages)

Proceedings of the 27th US Symposium on Rock Mechanics, held at University, AL, celebrates the 30th anniversary of the founding of the symposia. The theme—*Rock Mechanics: Key to Energy Production*—seemed particularly appropriate because of the symposium's location, deep in energy country.

Prices: M US \$53.50, SM US \$43.50,
NM US \$63.50 Order No. 596

Mining Engineering Analysis

by Christopher J. Bise
(1986, 153 pages)

An attempt is made to fill the gap between theory and application in mining engineering. The book is based on *SME Mining Engineering Handbook* and the *Coal Mining Technology—Theory and Practice*. Each chapter deals with the theory and then presents problems of applications and the solutions to them.

Prices: M US \$43.50, SM US \$35.50
NM US \$53.50 Order No. 57X

Proceedings of 19th APCOM

R. V. Ramani, editor
(1986, 912 pages)

APCOM (Applications of Computers and Operations Research in the Mineral Industry) has a common objective shared with scientists and engineers in the field: to contribute to the effectiveness of the decisions made by managers in the mineral industries.

Prices: M US \$53.50, SM US \$43.50
NM US \$63.50 Order No. 588

Ordering instructions:

Send book orders with remittance or specify MasterCard, VISA, Discover, or American Express. Please include your name mailing address (preferably a street address), card number, and card expiration date with your order. Mail orders to:

Dept. 4DI86 SME Books, Society of Mining Engineers, Inc.
Caller No. D, Littleton, CO 80127
Phone: (303) 973-9550; TWX 881988

Prices: M, Member; SM, Student Member; NM, Nonmember (prices include shipping and handling). Note: Student Members may purchase only one copy at Student Member price. Colorado residents add appropriate sales tax. Canadian orders add 25% to total.